

CURRICULUM VITAE

Dr. Meng Xia

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Professional Experience:

Research Investigator Oct, 2008----Now

Cooperative Institute for Limnology and Ecosystem Research
University of Michigan/Great Lake Environmental Research Lab, NOAA

Water Resource Scientist, Oct, 2007----Sep, 2008

Dynamics Solution LLC, Knoxville, TN

Postdoctoral Research Associate May, 2007----Oct, 2007

Department of Marine, Earth and Atmospheric Science,
North Carolina State University (NCU)

Education:

Ph.D. in Physical Oceanography (Estuary and Coasts), May, 2007

(Dissertation Title: Cape Fear River Estuary Modeling System)

Department of Marine, Earth and Atmospheric Science, NCU

Certificate in Geographic Information System, May, 2006

College of Natural Resources, North Carolina State University

M.S. Physical Oceanography (Coastal), July, 2002

(Thesis title: The solution for the Yellow Sea cold water mass circulation)

First Institute of Oceanography, State Oceanic Administration of China

B.S. Physical Oceanography, July, 1999

Ocean University of Qingdao, Qingdao, P.R.China

Research Interests:

Water Quality Modeling/Ecological Modeling/Physical-Biological Interaction

River and estuarine hydraulics, coastal hydrodynamics/Storm Surge Modeling

Sediment Transport and Wave-Current Interaction

GIS Application / Watershed modeling

Larval Transport

PUBLICATION/SERVICES & PRESENTATIONS:

In Preparations:

1. **Meng Xia et al.** (2009) Unstructured model based Wave-Current Interaction and its application to Grand Haven Area of Lake Michigan “Prepared for *Journal of Geophysical Research-Ocean*”
2. **Meng Xia et al.** (2009) The Modeling a shallow northern Gulf of Mexico bay estuary surface plume to numerical setting and wind forcing “Prepared to *Estuary and Coasts*”
3. Machuang Peng, Leonard.J, Pietrefesa, **Meng Xia** (2009). The storm surge induced sediment transport at the coastal NC. “Prepared to *Estuary and Coasts*”

In Review:

- 1 J.H.,Gao, J.,Li, Y. P.,Wang, Y., Yang, F.L., Bai, **Meng. Xia** (2009) Assemblages and compositions of heavy minerals, and associated their implications for sediment dynamics in the Yalu River Estuary and its adjacent sea area. “*Estuary Coastal and Shelf Sciences*” (Submitted)
- 2 **Meng Xia et al.** (2009) “The numerical modeling of Dissolved Oxygen dynamics and its Susceptibility for Caloosahatchee River Estuary and adjacent bay. Submit to *Journal of Environmental Engineering*”
- 3 M. Peng, L.J. Pietrafesa, S. Bao and **M. Xia**, (2009) Numerical modeling of the global warming related water quality change in Southeast of U.S
Journal of Coastal Research (In Revision)

Peer Reviewed Publications:

- 1 **Meng Xia et al.** (2009) Temporal and Spatial Distribution Simulation of Salinity and Dissolved Oxygen in Perdido Bay and Adjacent Coastal Ocean. “*Journal of Coastal Research*” (Accepted with Minor Revision)
- 2 Zhijun Liu, **Meng Xia** et al. (2009) The Water Quality Assessment of Caloosahatchee River Watershed and Estuary. *Journal of Environmental Science and Health: Part A* (Accepted)
- 3 Z. Liu, N. B. Hashim, W. L. Kingery, D. H. Huddleston. and, **Meng Xia** (2009) Hydrodynamic Modeling of St. Louis Bay Estuary and Watershed Using EFDC and HSPF. *Journal of Coastal Research. Special Issue 52*, 107-116
- 4 **Meng Xia**, Lian Xie, Leonard.J, Pietrefesa., Machuan Peng. (2008) Cape Fear River Estuary Storm Surge Modeling, *Journal of Coastal Research*.24(4C)159-167
- 5 **Meng Xia**, Lian Xie, Leonard.J, Pietrefesa. (2007) The plume modeling in Cape Fear River Estuary and adjacent ocean, *Estuary and Coasts*, 30(4) 698-709
- 6 Machuan Peng, Leonard.J, Pietrefesa., Shaowu Bao, Huiqing Liu, **Meng Xia** and Tingzhuang.Yan. (2007). LIDAR vs. GEODAS Land Elevation Data in Hurricane Induced Inundation Modeling, *Ocean Sciences Discussions* (4) 399-414
- 7 Leonard. J Pietrefesa, Karl Kelleher, Thomas Karl, Margaret Davidson, Mchuan Peng, Shaowu Bao, David Dicky, Lian Xie, Huiqing Liu, **Meng Xia** (2007) A new architecture for coastal inundation and flood warning prediction, *Marine Technology Society Journal* 40(4) . pp.71-77
- 8 **Meng Xia**, Lian Xie, Leonard.J, Pietrefesa. (2006) Cape Fear River Estuary Plume Modeling: Model Configuration and Sensitivity Experiments. /_In_/ M.L. Spaulding eds., *Estuarine and Coastal Modeling* 9. pp 66-84

- 9 Qinghua Zhang, **Meng Xia**, Yuanyuan Qu, (2002) The solution for the Yellow Sea cold water mass circulation. The national hydrodynamics conference 16, Ocean publication. pp 659-668
- 10 Qinghua Zhang, **Meng Xia**, Yuanyuan Qu, (2001) The Boundary solution for the complex oceanic region. The national hydrodynamics conference 15, Ocean publication. pp 16-19
- 11 Qinghua Zhang, **Meng Xia**, Yuanyuan Qu, (2001) The Spectrum Method in the Assimilation .The National Fluid Mechanics Conference, 5 (Shanghai, P.R.China) Meteorological Publication. pp 382-385
- 12 Qing-hua Zhang, **Meng Xia**. (1999) A Layer Model of the Kuroshio Flow on the East of Taiwan: The Solution of Steady State. *Ser .A*, Volume 14, No. 4(B). Journal of Hydrodynamics. pp. 68-75.
- 13 Qinghua Zhang, **Meng Xia**, (1999) A two-layer model of the Kuroshio at the east of Taiwan. The Numerical Calculation in the Advanced Research, 5, (Guiyang, P.R.China) The Science and Engineering Computation Book. pp 91-95

Professional Services:

1. Manuscript Reviewer for Geophysical Research Letter
2. Manuscript Reviewer for Coastal Lagoon
3. Manuscript Reviewer for Estuarine and Coastal Modeling
4. Proposal Reviewer for the Louisiana Board of Regents

Talks:

- 1 The Cape Fear River Estuary Plume Modeling. Department of Coastal and Oceanography. **Louisiana State Univ.** (April, 2007)
2. The summary of plume distribution: an application to Cape Fear. **Univ of Michigan/ NOAA Great Lakes Lab.** (January, 2008)
3. A Numerical Simulation of Dissolved Oxygen Dynamics for the Caloosahatchee River Estuary, FL. **University of Central Florida** (December, 2008)
4. A Numerical Simulation of Dissolved Oxygen Dynamics for the Caloosahatchee River Estuary, FL. **East Carolina University** (March, 2009)
5. A coupled watershed and water quality modeling and its application to the Caloosahatchee River Estuary, FL. **Nanjing University** (March, 2009)

Conference Presentations/Poster:

1. **Meng Xia**, David.J. Schwab, Eric.J.Anderson. The Application of FVCOM to Great Lakes . IAGLR's 52nd Annual Conference on Great Lakes Research. (May 18-22, 2009. Toledo, OH)
2. **Meng Xia**, Paul Craig, Chris Wallen, Andy Stoddard. The influence of physical forcing to the bottom DO with the the Caloosahatchee River Estuary, FL. Golden Research Conference: Coastal Ocean Circulation (June 7-12, New London, NH)
3. **Meng Xia**, L.J. Pietrafesa, Lian Xie, Machuan Peng, Shaowu Bao. The Hydrodynamic Modeling of Croatan-Albemarle-Pamlico Estuary System. 19th Biennial Conference of the Estuarine Research Federation. (Nov 4-8, 2007. Providence, RI)
4. **Meng Xia**, L.J. Pietrafesa, Machuan Peng, Shaowu Bao. The Modeling of Croatan-Albemarle-Pamlico Estuary System. 10th international conference on Estuarine and Coastal Modeling. (Nov 5-Nov 7, 2007. Newport, RI)
5. **Meng Xia**, Lian Xie, L.J. Pietrafesa. Hydrodynamics Modeling of Cape Fear River Estuary and adjacent coastal ocean. Joint AERS and SEERS Spring 2007 Meeting. (Mar 15-17, 2007. Pine Knoll Shores, NC)
6. **Meng Xia**, L.J. Pietrafesa.,M.Peng, S.Bao The Water Quality Modeling and its application to CI-FLOW Project, The 3rd NOAA In The Carolinas Meeting (Feb 28-Mar.1, 2007. Charleston, SC)
7. **Meng Xia**, Lian Xie, L.J. Pietrafesa. A numerical study of the plume in Cape Fear River Estuary and adjacent coastal ocean. The AGU fall meeting. (Dec 11-15, 2006. San Francisco, CA)
8. **Meng Xia**, Lian Xie, L.J. Pietrafesa, Plume Modeling in the Cape Fear River Estuary and Adjacent Ocean. Middle Atlantic Bight Oceanography and Meteorology Meeting. (30-31,October,2006. Chapel Hill, NC)
9. **Meng Xia**, Lian Xie, L.J. Pietrafesa, and M. Peng, The Cape Fear River Estuary Modeling System. 18th Biennial Conference of the Estuarine Research Federation.(Oct 16-21, 2005. Norfolk, VA)
10. **Meng Xia**, Lian Xie, L.J. Pitrefesa. The Cape Fear River Estuary Plume Modeling System. 9th international conference on Estuarine and Coastal Modeling. (Oct 31-Nov 2, 2005. Charleston, SC)
11. Weidong Yu, Dehai Luo , Moto IKEDA, Liu Zhengyu, **Meng Xia**, Liu Lin. Dynamic View of AO and NAO. China-Norway International Symposium on Polar Science. (Jul 30-Aug 2, 2001. Shanghai, China)
12. Weidong Yu, **Meng Xia**. Analysis of the sea surface anomaly character in yellow Sea and East China Sea from T/P data. PP. Workshop of Coastal Circulation and its impact in climate. (Nov 27-30, 2000. Qingdao, China)

MODELING SKILLS:

EFDC (*Three-Dimensional Hydrodynamic and Eutrophication Model*): including hydrodynamic and Water Quality sub-models, sediment transport sub-models.

WASP (Water Quality Analysis Simulation Program)

FVCOM (Finite Volume Coastal Ocean Model)

POM (*Princeton Oceanic Model*)

HSPF (Hydrological Simulation Program - FORTRAN)

ECOM (Estuarine, Coastal, Ocean Model)

UNTRIM (three-dimensional finite difference / finite volume numerical model)

COMPUTER SKILLS:

Programming: Fortran 77/90, Visual Basic, HTML, Excel, Word, PowerPoint.

Operating Systems: Windows 95/98/NT4, Windows 2000 (Pro), Unix Workstation, Sun Solaris(8), Dec Alpha.

GIS: ArcView(3.2), ArcGIS (9.1), Arc, GPS Pathfinder, ArcHydro 9.0.

Application: MATLAB, MINITAB, TecPlot, MS Access, FrontPage, Netcdf, Ferret, GraDs.

Sea-going/Cruise experience

- Participated cruise on board Dong Fanghong from 7-13 September 1997 and familiarized with onboard meteorological and oceanographic instruments. (Jiaozhou Bay)
- Participated cruise on board Dong Fanghong from 5-20 May 1999 and familiarized deploying XBT. (Bohai Sea)
- Participated Cruise on board on Nov 2003 and familiarized with onboard oceanographic instruments. (Gulf Stream)